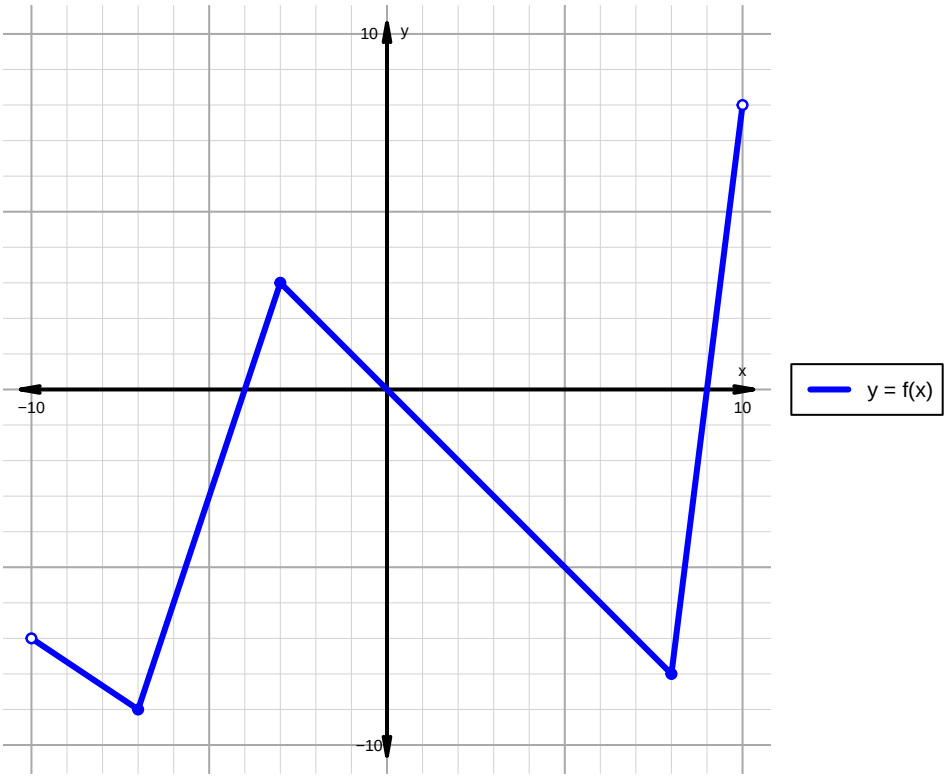
Name: Date:

Intervals, Transformations, and Slope EXAM (version 152)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	
Negative	
Increasing	
Decreasing	
Domain	
Range	

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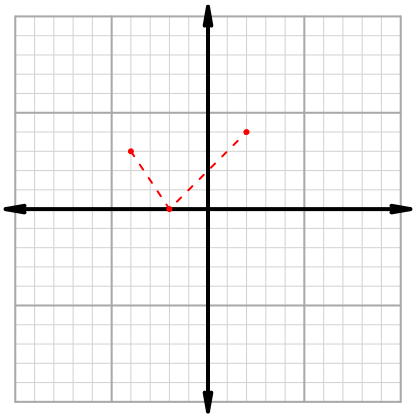
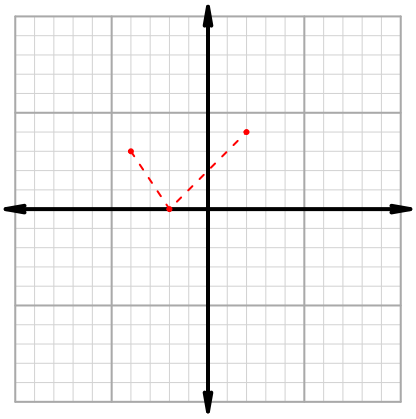
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.

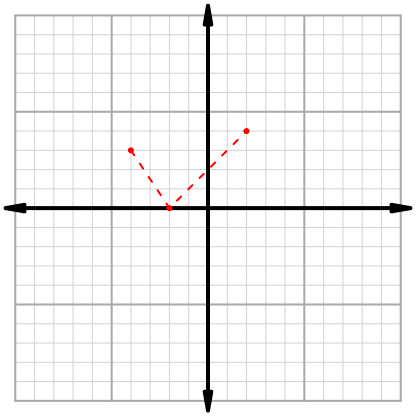
$y = f(x) - 2$



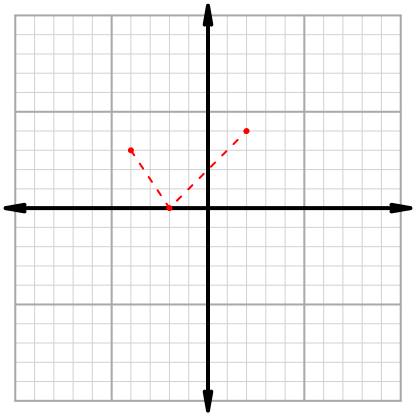
$y = -2 \cdot f(x)$



$y = f(x + 2)$



$y = f(-2 \cdot x)$



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 33$ and $x_2 = 87$. Express your answer as a reduced fraction.

x	$g(x)$
33	85
85	87
87	94
94	33